



Effectiveness of Implementing Traditional Games on Basic Motor Skills in Students of Phase A at SDN 2 Buluagung

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Abstract:

This study aims to analyze the effect of implementing traditional games on the basic motor skills of phase A students at SDN 2 Buluagung, Karanganyar District, Trenggalek Regency. This study was motivated by the importance of learning Physical Education, Sports, and Health (PJOK) in improving motor skills, physical fitness, and character of students through physical activities. The results showed that the basic motor skills of phase A students increased significantly after the implementation of traditional games. In the pre-test, 17 students were in the very low category with the smallest motor quotient score of 46 and the largest 67. In the post-test, basic motor skills increased with 12 students in the average category, 4 in the above average category, and 1 in the below average category, with the smallest motor quotient score of 79 and the largest 106. The normality test showed that the data was not normally distributed, so the analysis was carried out using a non-parametric test. The results of the Wilcoxon Signed Rank Test showed an increase in the basic motor skills of students after being given treatment. After being calculated using the N-Gain formula, the effectiveness of the implementation of traditional games reached a score of 90.76%, with a minimum value of 61.11 and a maximum value of 114.29. This study concludes that the implementation of traditional games has an effect and is effective in improving the basic motor skills of phase A students at SDN 2 Buluagung. In addition, this study contributes to the preservation of traditional games and offers an alternative method of learning PJOK that is interesting and effective.

Keywords: Basic Skills, Motor Movement, Traditional Games

1. INTRODUCTION

The development of basic motor skills in primary school students, especially those in Phase A (Grades 1–2), is crucial as it lays the foundation for students' physical, cognitive, emotional, and social growth (van Aart et al., 2017; Wainwright et al., 2020). However, challenges such as limited physical activity, inadequate facilities, and lack of structured programs often hinder optimal motor development at this stage. Physical Education, Sports, and Health (PJOK) plays a vital role in addressing these issues by using physical activity

as a medium to achieve broader educational goals (Flôres et al., 2019; Qomarrullah et al., 2024). PJOK is a tool to achieve educational goals, or education through the process of adapting physical activities such as body organs, neuromuscular, intellectual, social, cultural, emotional, and ethical (Bete & Saidjuna, 2022).

Through PJOK, students' skills in aspects of physical fitness, motor skills, knowledge, attitudes, emotional intelligence, character, healthy lifestyle habits, mind, and soul through physical activities, sports, and health are increased (Titih et al., 2023).

At elementary school age, students are experiencing a very rapid growth and development phase. Based on this, students really need coaching and guidance from those around them (Ariyanti, 2018). PJOK teachers must be able to prepare their students as a whole, both physically, mentally, emotionally, disciplined, cooperative, fair play, honest, creative, and innovative. In the *Merdeka Curriculum*, teachers are given the freedom to design learning according to the needs of students and the conditions of the learning environment (Umar et al., 2023).

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In phase A, students are expected to achieve a number of learning aspects, one of which is the development of basic movement skills (Escolano-Pérez et al., 2020). Basic human movements can generally be classified into three main types, namely locomotor movements, non-locomotor movements, and manipulative movements (Yuwono et al., 2022). Basic movements are very important to learn and practice from an early age, because basic movements are the foundation for developing higher movements, such as gymnastic movements, dance movements, sports movements, and martial arts movements. Basic movements are also useful for improving physical fitness, health, motor skills, knowledge, attitudes, emotional intelligence, and character of students (Parviainen & Aromaa, 2017).

The development of basic movement skills is the process of improving body skills to perform simple and natural movements, which are the basis for developing more complex and skilled movements (Newell, 2020). The development of basic movement skills is influenced by various factors, such as age, talent, interest, motivation, environment, and training. The development of basic movement skills can be divided into three phases, namely the basic movement development phase, the transition phase, and the specification phase (Amirzan, 2017). In each phase, students experience changes and progress in locomotor, non-locomotor, and manipulative skills. The development of basic movement skills is very important to learn and practice, because basic movement skills are the foundation for developing

higher movement skills, such as gymnastic movements, dance movements, sports movements, and martial arts movements (Suherman et al., 2024). The media that can be used to improve basic movement skills are traditional games. Traditional games are original games of the people as a cultural asset of the nation that have elements of traditional physical exercise. Traditional games are game activities that are easy to understand, learn, and do. Some of the advantages of traditional games include not requiring a lot of equipment, equipment can be made by yourself, and equipment and supplies are relatively cheap compared to modern games. Traditional games are not only fun, but also provide opportunities for students to naturally engage in various basic movements. By playing traditional games, students can hone coordination, speed, balance, and other motor skills interactively (Sudaryanti et al., 2024). The application of traditional sports in PJOK learning is expected to be one of the media for improving basic motor movements in students.

This study aims to analyze the effectiveness of integrating traditional games into PJOK learning to improve the basic motor skills of primary school students in Phase A.

2. MATERIAL AND METHOD

This research is a type of experimental research with the form of Pre-Experimental Designs. The research design is One Group Pre-Test and Post Test Design. In this design, there is before being given treatment and after being given treatment.

Table 1. Research Design

Group	<i>Pre-Test</i>	<i>Treatment</i>	<i>Post-Test</i>
Experimental Group	X ₁	Y	X ₂

Description:

X1: Pre-Test Result

X2: Post-Test Result

Y: Treatment given using traditional games

In this study, before the treatment using traditional games, students first carried out a basic motor skills test of locomotor and manipulative using the TGMD-2 test instrument. After the test was carried out using TGMD-2 (Test of Gross Motor

Development), students were then given treatment in the form of traditional games.

Table 2. Research Treatment

Types of Traditional Games	
Locomotor Movement	Manipulative Movement
Sepak Rago	Gobaksodor
Kasti	Engklek

The selection of traditional games was based on several previous studies and the availability of tools at SDN 2 Buluagung. The population in this study were students in phase A of Elementary

School at SDN 2 Buluagung which were divided into 2 classes consisting of 17 students. In this study, the author used a purposive sampling technique.

Table 3. Research Sample

No	Phase A Class	M	F	Amount
1	I	4	4	8
2	II	5	4	9
Amount		9	8	17

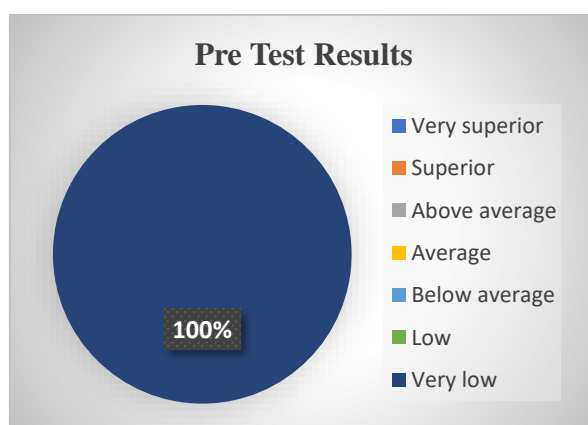
3. RESULT AND DISCUSSION

The pre-test data of basic motor skills using the score test instrument were obtained through the raw scores of 17 students, which will then be

calculated for their standard score to determine their percentile, age equivalent, and gross motor quotient. The smallest motor quotient score was 46 and the largest motor quotient score was 67.

Table 4. TGMD Pre-Test Results – 2

Range of Values	Frequency
>130	0
121-130	0
111-120	0
90-110	0
80-89	0
70-79	0
<70	17

**Figure 1.** Pre-Test Results

Based on the diagram above, it shows that the pre-test results of 17 students are 100% very low. The table below presents the processing of descriptive statistics of pre-test data.

Table 5. Pre-Test Descriptive Statistics

Class	N	Minimum Value	Maximal Value	Average	Standard Deviation	Variance
<i>Pre-Test</i>	17	46	67	54.26	5.76	33.22

On the pre-test, scores ranged from 46 to 67 with a mean of 54.26, a standard deviation of 5.76, and a variance of 33.22.

The post-test data of basic motor skills using the score test instrument were obtained through the

raw scores of 17 students, which will then be calculated for their standard score to determine their percentile, age equivalent, and gross motor quotient. The smallest gross motor quotient score was 79 and the largest gross motor quotient score was 106.

Table 6. TGMD-2 Post-Test Results

Range of Values	Frequency
>130	0
121-130	0
111-120	0
90-110	12
80-89	4
70-79	1
<70	0

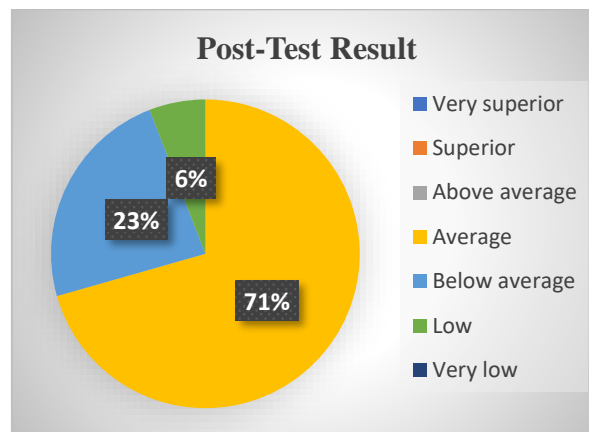


Figure 2. Post-Test Result

Based on the diagram above, it shows that the pre-test results of 17 students, 71% are in the average

category, 23% are in the below average category, and 6% are in the low category.

Table 7. Post-Test Descriptive Statistics

Class	N	Minimum Value	Maximal Value	Average	Standard Deviation	Variance
<i>Post-Test</i>	17	79	106	99.97	9.54	91.05

The pre-test and post-test data showed significant changes in students' abilities after the intervention. In the post-test, the minimum score increased to 79 and the maximum to 106, with a mean of 99.97, a

standard deviation of 9.54, and a variance of 91.05. The increase in the mean from 54.26 to 99.97 indicates that the intervention successfully improved the overall abilities of the participants.

Although there was variation in the improvements, these data support the conclusion that the

intervention had a significant positive impact on students' performance.

Table 8. Shapiro Wilk Normality Test Results

Data	Statistics	Df	Sig.
Pre-test	.840	17	.008
Post-test	.888	17	.043

Based on the results of the normality test calculations as shown above in the Table, the normality test values of the pre-test data and post-test data of the basic movement skills of phase A students at SDN 2 Buluagung. It is known that the significance value of Sig. 0.008 < 0.05 and the significance of the Post-test Sig. 0.043 < 0.05. So with the basis for decision making on the "Shapiro

Wilk" normality test above, it can be concluded that the data is not normally distributed. If the parametric test results are not normally distributed, the next step is for the researcher to test the data using a non-parametric test (Nuryadi, 2017; Hajaroh & Raehanah, 2022; Budiwanto, 2017). The non-parametric test used by researchers in this study is the Wilcoxon signed ranks test formula.

Table 9. Wilcoxon Signed Rank Statistical Test

Post Test	Pre Test
Z	-3.634
Asym. Sig. (2-tailed)	.000

The results of data calculations using the Wilcoxon Signed Rank Test method, the results of the pre-test and post-test analysis above obtained a negative

rank value of 0.00 and a positive rank of 153.00, which means that there was an increase in students' basic motor skills after being given treatment.

Table 10. Descriptive Statistics of N-Gain

Class	N	Minimum Value	Maximal Value	Average	Standard Deviation
<i>N Gain Score</i> Persen	17	61.11	114.29	90.76	18.48

The data above shows that traditional games are 90.76% effective in improving basic motor skills of students at SDN 2 Buluagung. Furthermore, the results of the N-Gain calculation above are interpreted using the N-Gain effectiveness interpretation category according to table 3.5. The results of the N-Gain value above are included in the effective category.

Hypothesis testing is a statistical method used to make decisions about a population based on sample data. The hypothesis testing process begins by formulating a null hypothesis (H_0) stating that there is no effect or difference, and an alternative hypothesis (H_1) stating that there is an effect or difference. Next, a significance level (α) is determined, usually 0.05, to measure the possibility of error. The p-value is then determined to assess the significance of the results. If the test statistic is more extreme than the critical value or the p-value

is smaller than α , then H_0 is rejected. Conversely, if not, then H_0 is accepted. After the researcher conducted a series of basic motor skills tests and hypothesis testing, the researcher was able to obtain the following results:

1. The results of data calculation using the Wilcoxon Signed Rank Test method showed a negative rank value of 0.00 and a positive rank of 153.00, which indicated an increase in students' basic motor skills after being given treatment. The Asymp Sig (2-tailed) value obtained was 0.00, indicating that the significance value is less than 0.05, so this hypothesis is accepted. This confirms that the implementation of traditional games has an effect on basic motor skills in phase A students at SDN 2 Buluagung.

2. The test results data with the N-Gain formula show that traditional games are 90.76% effective in improving basic motor skills of students at SDN 2 Buluagung. Furthermore, the results of the N-Gain calculation show that traditional games are included in the effective category based on the N-Gain effectiveness interpretation category used. This indicates that the application of traditional games has succeeded in effectively improving basic motor skills in phase A students at SDN 2 Buluagung. From these results, the hypothesis in this study which states that "The application of traditional games is effective for basic motor skills in phase A students at SDN 2 Buluagung" is accepted.

Interpretation is the analysis of research results conducted during a series of research activities. The purpose of this activity is to answer research problems, show how research is conducted, and interpret and integrate research results into existing knowledge bodies so that they become more meaningful and useful for developing knowledge or things that have been researched in daily activities.

Based on the analysis of pre-test data of basic motor skills using the TGMD-2 instrument involving 17 students, the smallest motor quotient score was 46 and the largest was 67, indicating that before the intervention, students' gross motor skills were in a very low category. After being given intervention through traditional games, the post-test score data showed a significant increase, with the smallest motor quotient score of 79 and the largest of 106. This indicates that there is a significant increase in the motor quotient score in the post-test of basic motor skills using the TGMD-2 instrument.

Since the design of this study is one group pre-test and post-test design, after obtaining the recapitulation of the pre-test and post-test results of TGMD-2, the data was then tested for normality using the Shapiro Wilk formula with the help of SPSS 27.0. It is known that the pre-test significance value Sig. 0.008 < 0.05 and the post-test significance Sig. 0.043 < 0.05. This indicates that the data is not normally distributed. Therefore, this study continues hypothesis testing using a non-parametric test, namely the Wilcoxon Signed Ranks Test. The results of the analysis using the

Wilcoxon Signed Ranks Test showed a negative rank value of 0.00 and a positive rank of 153.00, which indicated an increase in students' basic motor skills after being given treatment. After the first hypothesis testing step, the researcher then continued testing the second hypothesis using the N-Gain formula with the help of SPSS 27.0. The results of the analysis using the N-Gain formula showed a minimum value of 61.11, a maximum value of 114.29, an average value of 90.76, and a standard deviation of 18.48. This interpretation shows that intervention through traditional games has a positive and significant impact on the development of basic motor skills of phase A students at SDN 2 Buluagung.

4. CONCLUSION

From the results of the pre-test data description using the TGMD-2 instrument, 17 students obtained low scores so that it can be concluded that 100% of students are in the very low category. After being given treatment in the form of traditional games, there was a significant increase in the TGMD-2 post-test results. Of the 17 students, there were 12 students in the average category, 4 students in the below average category, and 1 student in the low category with the smallest gross motor score of 79 and the largest was 106. 3. The results of data calculations using non-parametric tests with the Wilcoxon signed rank test method showed a negative rank value of 0.00 and a positive rank of 153.00, which means that there was an increase in students' basic motor skills after being given treatment. 4. Based on the results of the effectiveness test of pre-test and post-test data using the N-Gain formula in this study, a minimum value of 61.11 was obtained; maximum value of 114.29; standard deviation of 18.48; and effectiveness score of 90.76%.

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